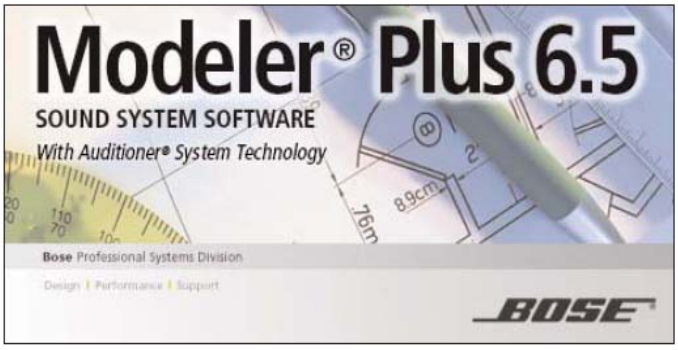

Bose® Modeler® Plus 6.5 Software
User Guide Supplement

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Introduction

Bose Modeler Plus software, together with the Bose Auditioner® Playback System III, provides the ability to listen to a sound system before it is ever installed. While this feature produces very impressive customer presentations, its ease and responsiveness allow the designer to incorporate listening into the design process itself. The act of listening can reveal aspects of the performance of a sound system design that may be difficult, if not impossible to discern when simply viewing columns of data or even coverage maps. This guide details the capabilities of this powerful technology.

The chapters in this User Guide Supplement will cover the following topics:

Chapter 1 - Getting started

Chapter 2 - Modeler Plus Software Tutorial

Chapter 3 - The Bose Media Player

Chapter 4 - The Playlist tab

Chapter 5 - The Playback tab

Chapter 6 - Designing with Modeler Plus software

Chapter 7 - Customer presentations

Chapter 8 - Reference

Chapter 1: Getting Started

System requirements

The minimum system requirements for running Bose Modeler Plus software are:

- Microsoft Windows XP Professional, Service Pack 2 (or later).
- Microsoft Windows Vista (Business, Home, Premium or Ultimate editions. **VISTA CLASSIC THEME ONLY**).

Note: Modeler Plus 6.5 is compatible only in Vista Classic theme. If you have Vista installed on your machine, the default theme is Windows Vista. To change this setting, simply:

1. Right-click on your desktop and select **Personalize**.
2. Click on **Theme**, and select **Vista Classic**.
3. Click **Apply** or **OK** to finalize the change.

You will not be required to reboot. To restore the original theme, simply perform the same set of procedures and select your desired theme.

- 1GHz 32-bit (x86) or 64-bit (x64 processor) or better.
- 512 MB of RAM available (2GB of RAM recommended).
- 300 MB of disk space available (1GB recommended).
- CD-ROM drive.
- 1024 x 768 32-bit XGA color video display adapter.
- 2 USB ports available: one for the USB hardware key and one for a scroll-wheel mouse.

It is highly recommended that you use a scroll-wheel mouse with Modeler Plus software.

Note: You must have administrative rights on your computer to install Bose Modeler Plus software. Administrative rights are not required to run Modeler Plus software after installation.

Registration

Before you install Modeler Plus software, you must register with Bose Professional Systems. Navigate your Web browser to **http://pro.bose.com/modeler**. Click on **Software Registration** and fill out the necessary information.

Note: After submitting your registration you will be given a serial number which you will need to install Modeler Plus software. Please keep this serial number in a safe place in case you need to reinstall the application. You may want to note it here below.

Serial Number: .....

Installation

Follow these steps to install Modeler Plus software:

1. Insert the Bose Modeler Plus 6.5 software CD into a CD-ROM drive.
2. The installer will launch automatically.

Note: If it fails to launch within one minute, open Windows Explorer and navigate to the CD directory.

Double-click on the file named "Install.exe". The installer opens.

3. You should now see Figure 1.1. Click Next.

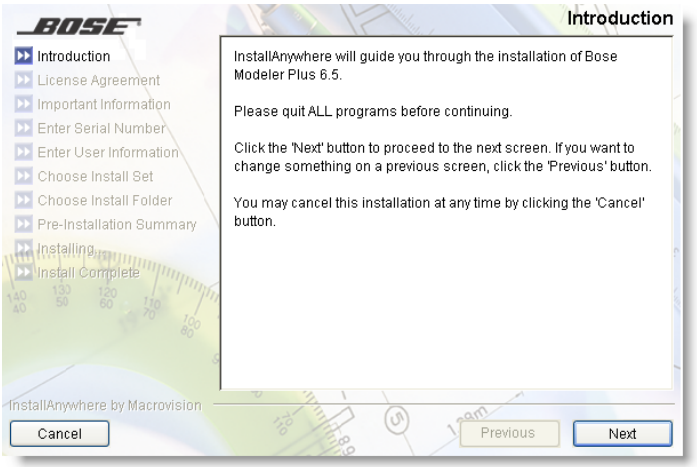

Introduction
Introduction
License Agreement
Important Information
Enter Serial Number
Enter User Information
Choose Install Set
Choose Install Folder
Pre-Installation Summary
Installing
Install Complete
InstallAnywhere will guide you through the installation of Bose Modeler Plus 6.5.
Please quit ALL programs before continuing.
Click the 'Next' button to proceed to the next screen. If you want to change something on a previous screen, click the 'Previous' button.
You may cancel this installation at any time by clicking the 'Cancel' button.
InstallAnywhere by Macrovision
Cancel
Previous
Next

Figure 1.1 - Installer window

Note: A warning window appears, stating that you must have administrative rights to continue. If and when you do, click OK to continue.

4. The License Agreement appears:

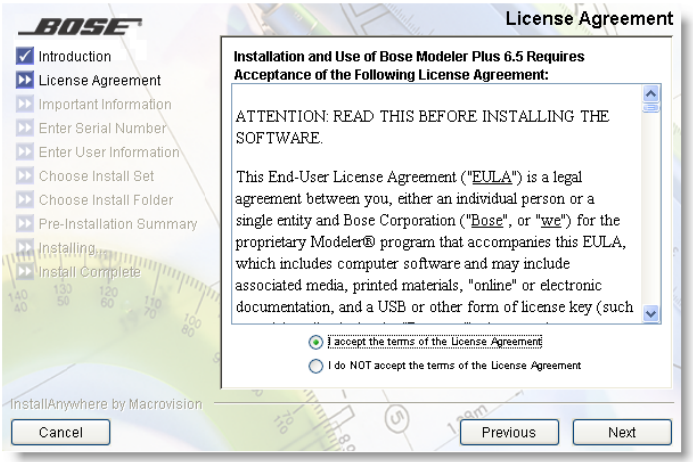

License Agreement
Introduction
License Agreement
Important Information
Enter Serial Number
Enter User Information
Choose Install Set
Choose Install Folder
Pre-Installation Summary
Installing
Install Complete
Installation and Use of Bose Modeler Plus 6.5 Requires Acceptance of the Following License Agreement:
ATTENTION: READ THIS BEFORE INSTALLING THE SOFTWARE.
This End-User License Agreement ("EULA") is a legal agreement between you, either an individual person or a single entity and Bose Corporation ("Bose", or "we") for the proprietary Modeler® program that accompanies this EULA, which includes computer software and may include associated media, printed materials, "online" or electronic documentation, and a USB or other form of license key (such
I accept the terms of the License Agreement
I do NOT accept the terms of the License Agreement
InstallAnywhere by Macrovision
Cancel
Previous
Next

Figure 1.2 - License Agreement window

5. Read the License Agreement, then click to accept the terms of the License Agreement. Click **Next**.
6. Please read the important information as recommended below, then click **Next**.

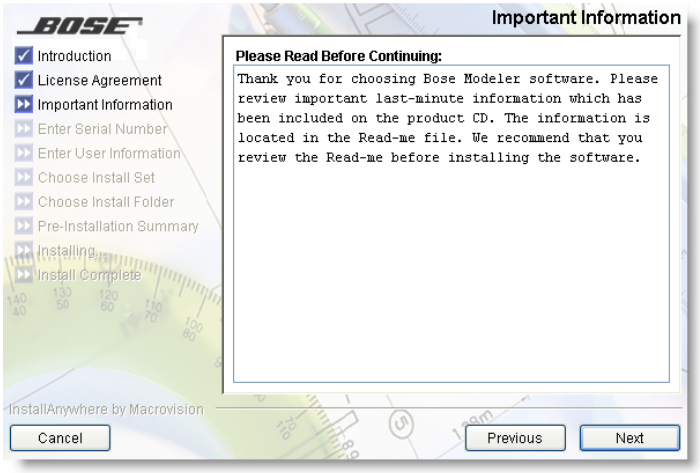

Important Information
Introduction
License Agreement
Important Information
Enter Serial Number
Enter User Information
Choose Install Set
Choose Install Folder
Pre-Installation Summary
Installing...
Install Complete
Please Read Before Continuing:
Thank you for choosing Bose Modeler software. Please review important last-minute information which has been included on the product CD. The information is located in the Read-me file. We recommend that you review the Read-me before installing the software.
InstallAnywhere by Macrovision
Cancel
Previous
Next

Figure 1.3 - Important Information

7. When prompted, enter the serial number that you received during the online registration process, or via the mail. Click **Next**.

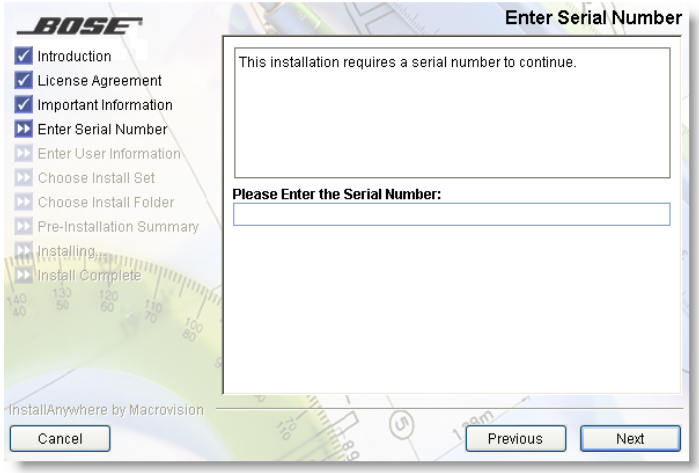


Figure 1.4 - Enter Serial Number

8. Now you can enter your User Information. Click **Next**.

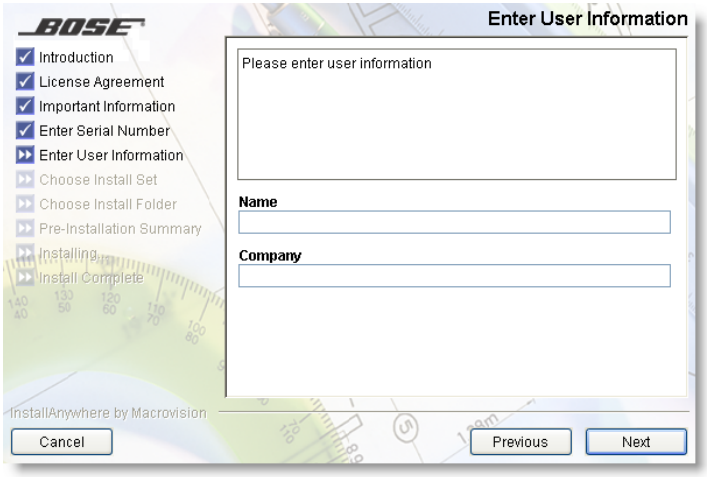


Figure 1.5 - Enter User Information

9. Choose the appropriate Install Set. Click **Next**.

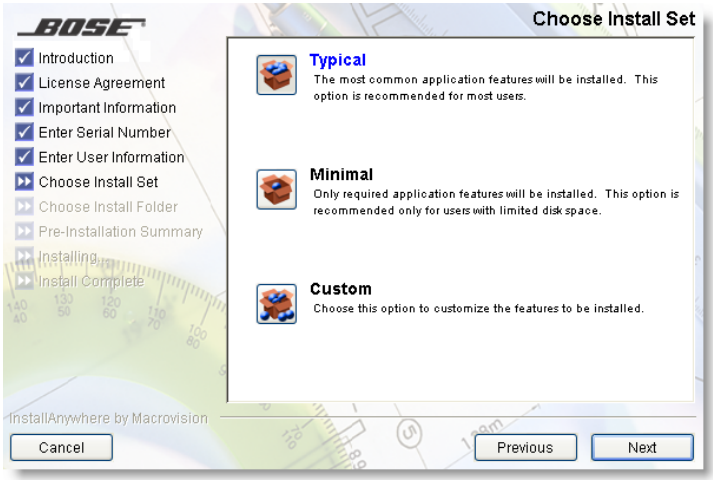


Figure 1.6 - Choose Install Set

10. Choose where you would like to install. Click **Next**.

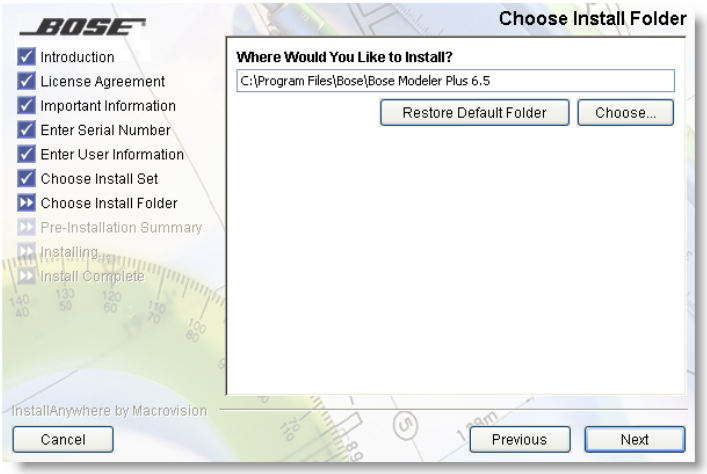


Figure 1.7 - Choose Install Folder

11. Review the **Pre-Installation Summary** that appears, then click **Install**.

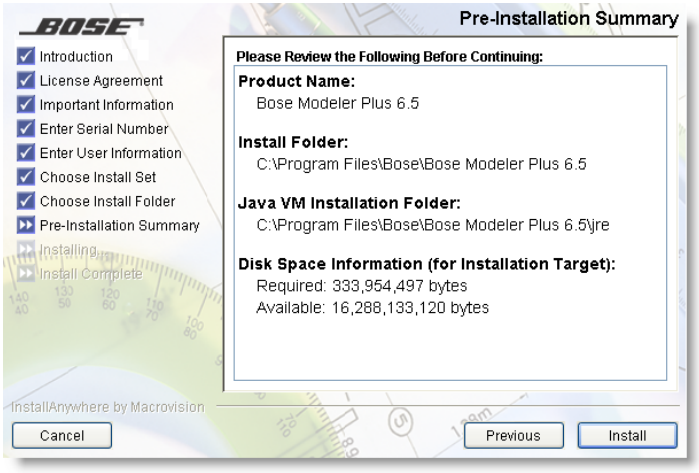


Figure 1.8 - Pre-Installation Summary

Figure 1.9 shows the window that appears while installing.

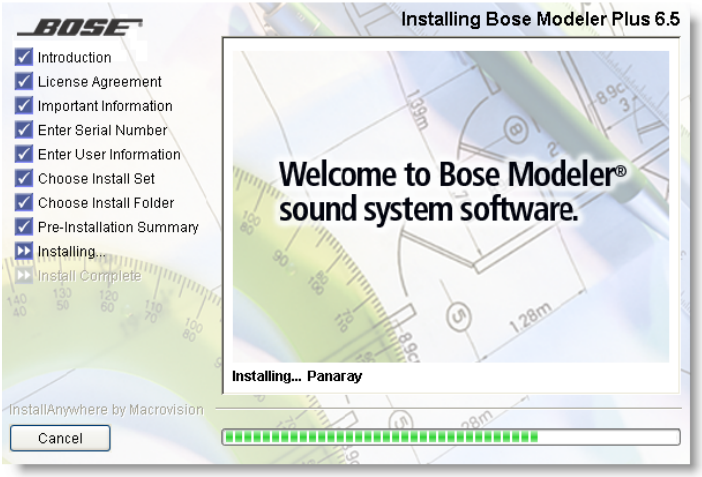


Figure 1.9 - Installing

12. After installation of Modeler Plus software, the driver for the USB hardware key will be installed. Remove your hardware key if it is already inserted in the USB port. Click **Next**.

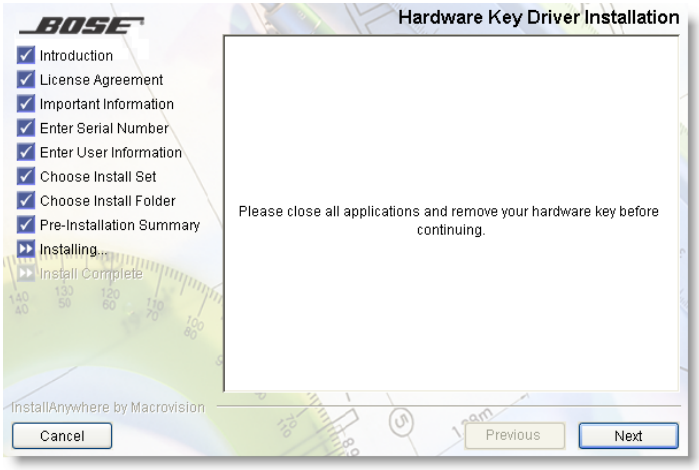


Figure 1.10 - Hardware key driver installation

Figure 1.11 shows the window that appears while you are waiting:

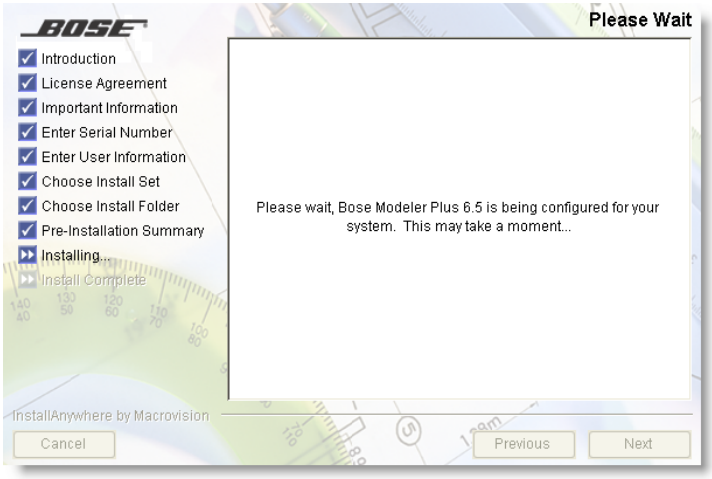


Figure 1.11 - Configuring your system

The **Please Wait** window below will appear above Figure 1.11:

Figure 1.12 - Please wait

13. The following window will appear. Click **OK** to complete:

Figure 1.13 - Successful completion

14. Click **Done** when the installer is finished:

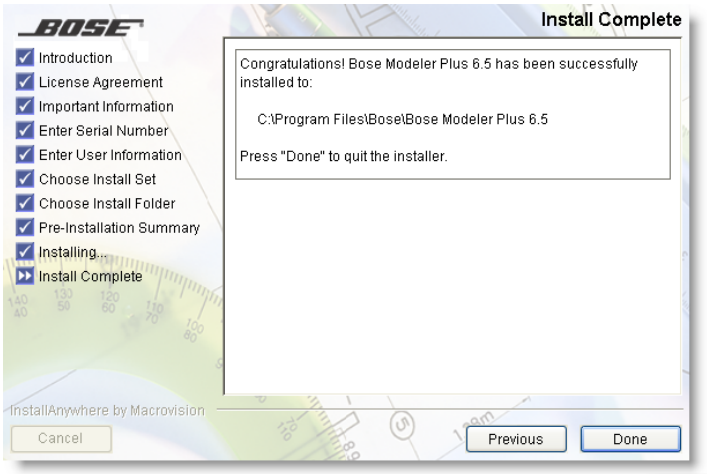


Figure 1.14 - Final installer screen

Setup

Hardware Key

To run Modeler Plus software, you must insert the supplied USB hardware key into a USB port on your computer. The hardware key must be enabled to use the features in Modeler Plus software. These features are not available if you use the Modeler standard hardware key.

Note: If you have a project open and do not see the Playlist and Playback tabs, you may not be using a Modeler Plus software enabled hardware key. Please contact your Bose representative for assistance.

Note: Two hardware keys are provided for each licensed user. The keys have an expiration date, which is printed on the sticker attached to the hardware key. If you wish to order more keys, or if your key has expired (the software will provide warnings starting from 30 days prior to key expiration), please contact your local Bose sales representative.

Auditioner® Playback System III

Connect the Auditioner® Playback System III to your PC through a USB port. Make sure your unit is switched on.

Note: For more information on using Auditioner® Playback System III, see the Auditioner® Playback System III User Guide.

When the Auditioner® Playback System III is connected to your computer, some system sounds, such as the Windows startup sound, may be played through the unit. To prevent your computer system sounds from being played through the Auditioner® Playback System III, follow these steps:

1. Go to **Start** > **Control Panel**, and double-click on **Sounds and Audio Devices**.
2. Choose the **Sounds** tab.

3. Under **Sound Scheme** choose **No Sounds** from the drop-down menu.

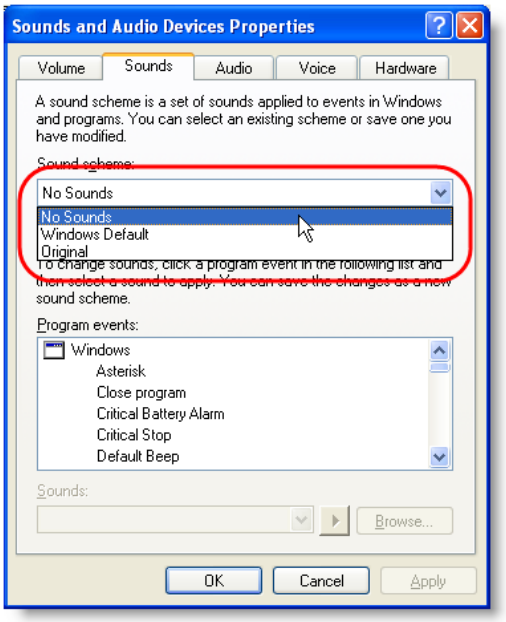


*Figure 1.15 - Choosing **No Sounds** scheme*

4. Click **OK** to save this setting and close the window.

Chapter 2: Modeler Plus Software Tutorial

The tutorial will familiarize the designer with the basic functionality of the application. It will illustrate the steps needed to listen to and evaluate the sound system performance at various locations within a model. Users will learn how to easily compare design variations.

The user selects a number of locations within the model at which to listen to the sound system performance. At each ***Listener*** location, the sound field produced by the sound system design is evaluated across the dimensions of time, space and frequency. The application processes an input signal, typically a music or speech (.wav) file, producing audio infused with the appropriate reverberation and room characteristics.

Much of the power of this tool is derived from the ability to listen to and compare multiple design variations in a single session. To facilitate this feature, we introduce the concept of a ***Project*** which may contain one or more ***Models*** that capture different design variations. The project object contains many of the attributes and settings used by the Modeler Plus application. While the designer may open and interact with a model outside of a project, the model must be in a project in order to activate the Auditioner® features.

Therefore, before the user can listen to a sound system design, a number of conditions must be met:

1. The Playback System III is connected and powered on.
2. A room model is built and surface materials have been assigned.
3. The model contains a sound system, composed of at least one loudspeaker.
4. The model exists within a project.
5. At least one listener location is selected and enabled at which the sound system is evaluated.
6. Source material is loaded and playing.

The tutorial uses the example model provided on the Modeler Plus software installation CD. Take the following steps in this tutorial toward the ultimate goal of listening to the sound system design:

1. Launch Windows Explorer and navigate to the Bose Modeler Plus 6.5 software installation CD directory.
2. Copy the folder titled **Tutorial** from the CD to your desktop, and close Windows Explorer.
3. Launch Modeler Plus software.
4. Click **File** > **Open Project...**
5. In the **Look in:** drop-down menu, click on the desktop.
6. Open the **Tutorial** folder, then open the **First Street Church** folder.
7. Open the project named **First Street Church.pjt**
   - You will see this in the **Project** window:

*Figure 2.1 - First Street Church project in the **Project** window*

8. Double-click on the **Design 1** model in the **Project** window. The **Design 1** model opens, and the **Bose Media Player** opens.

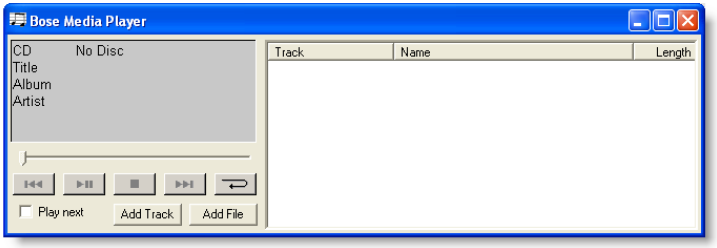


Figure 2.2 - Bose Media Player

Note: The Bose Media Player does not open unless the Auditioner® Playback System III is connected to your computer and powered on.

For now, dismiss the player window. We will add program material for playback at a later stage of this tutorial.

9. Choose **Design** > **D²RΔSTIc** > **Confirm with Auditioner®** or press **F9** to enable listeners for playback.

   The **Playlist** and **Playback** tabs are automatically selected, and the D²RΔSTIc engine begins enabling the listeners. The listeners appear in *italics* until the calculation has completed.

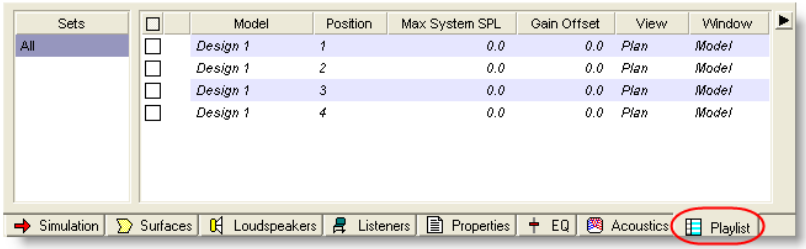


*Figure 2.3 - **Playlist** tab before listeners have been calculated*

After the D²RΔSTIc engine has finished the calculation, the listeners no longer appear in italics. This indicates they have been enabled for Auditioner® Playback System III playback.

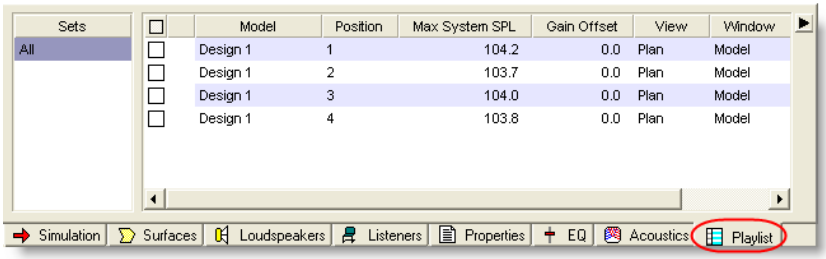


*Figure 2.4 - **Playlist** tab with listeners enabled for playback*

For each listener, the **Playlist** tab displays the **Model** name and the listener (**Position**) label, as well as additional data that is used during playback.

10. It is always a good idea to mute playback before loading listeners. Once loaded, we will inspect the room meter to make sure that the playback is at a reasonable level.

    Press the Mute playback button, or use the direct key **M** to mute playback volume. Press again to unmute.

Figure 2.5 - Mute playback button shown in mute state

11. Click in the selection box in column 1 of the Playlist window to select a location for playback. An “X” is drawn in the selection box. This places the listener in the playback queue. The green loudspeaker icon indicates which listener is currently playing.

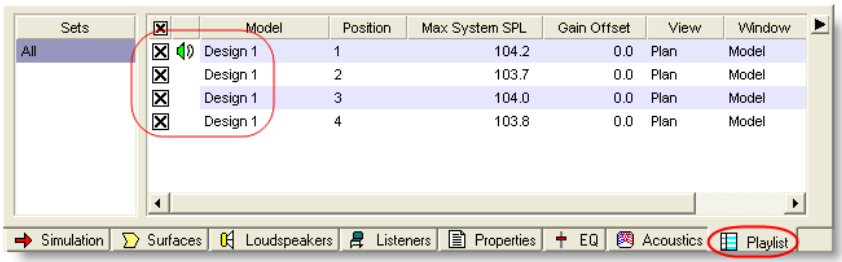


Figure 2.6 - Place an “X” to load listeners

12. If the Bose Media Player is already open, bring it to the front by clicking the Windows® Taskbar.

13. Click on the **Add File** button, or **Add Track** button in the **Bose Media Player** to load an audio track.

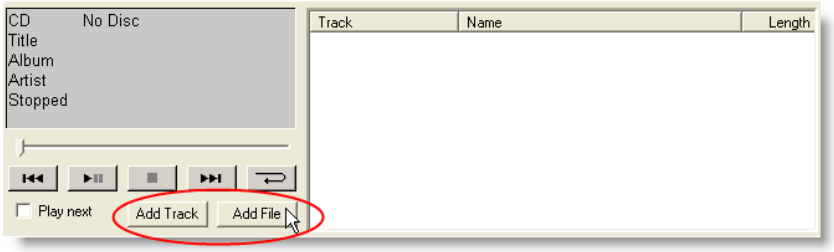


*Figure 2.7 - **Add File** and **Add Track** buttons*

Add File:	Allows you to load a (.wav) audio file from your hard drive or an external drive.
Add Track:	Allows you to load a track from an audio CD.

Select a track or audio file and press the **Play** button to begin playback. The processed audio for the listener begins playing through the Auditioner® Playback System III once the system mute button is toggled to the unmute state.

14. Select the **Playback** tab in the **Data** window:

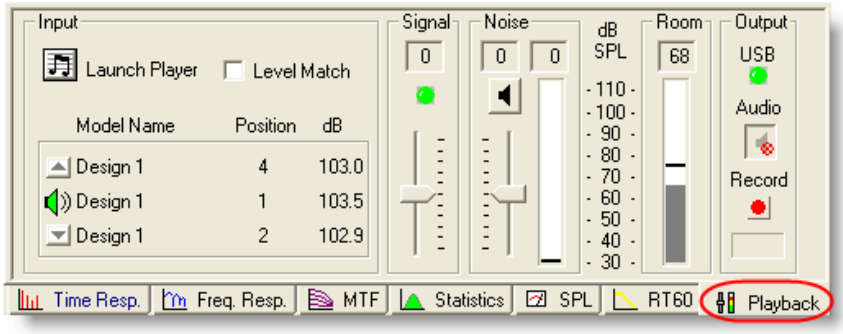


*Figure 2.8 - **Playback** tab*

The **Playback** tab displays the playback queue and includes controls for playback. Use the up and down buttons to scroll through the listeners.

15. Verify that the levels are below 100 dB for comfortable playback.
16. If OK, unmute.

You are now listening from position 1 in the Church model.

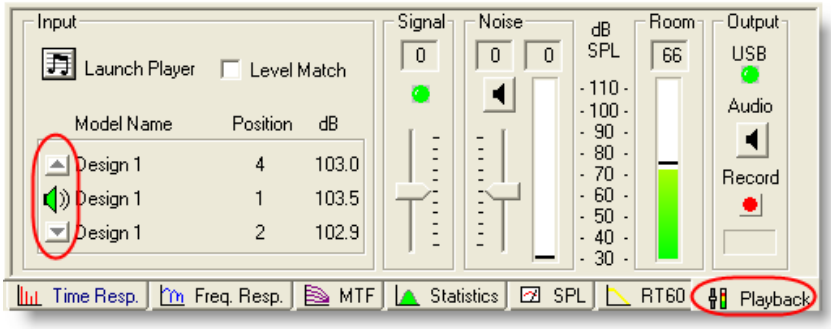


Figure 2.9 - Controls for scrolling through listeners (up/down buttons)

Change listeners using the next/previous arrow buttons to the left of the playback queue.

You can also use the **Ctrl + Arrow** keyboard shortcuts to scroll through listeners, and to adjust the volume:

Ctrl +← **Ctrl +→**	To scroll through listeners.
Ctrl +↑ **Ctrl +↓**	To turn the signal volume up and down.
Ctrl + Shift + 0	To mute noise.
Ctrl + Shift + ↑ **Ctrl + Shift + ↓**	To turn the noise volume up and down.

17. Add realism to the playback by adding background noise to the model. Before adding the background noise, make sure the system is muted.

Figure 2.10 - Mute noise

18. Open the Background Noise dialogue on the Acoustics tab.

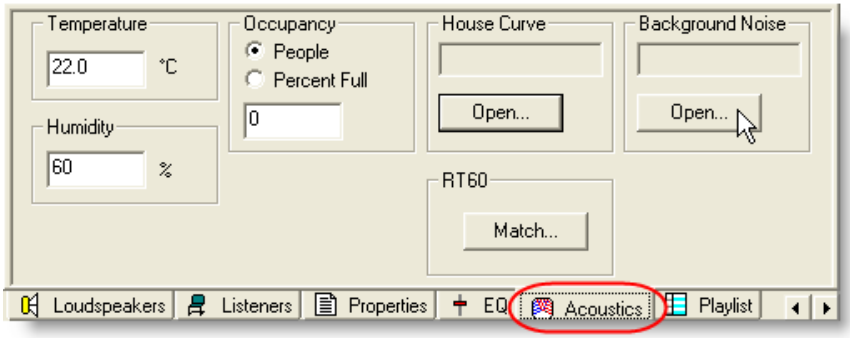


Figure 2.11 - Launch the background noise

19. Select Auditorium from the Custom Noise folder.

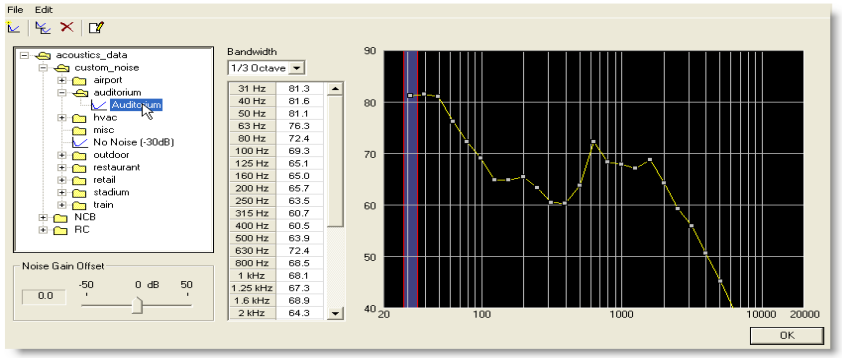


Figure 2.12 - Select Custom Noise

20. Make sure that the noise is at a reasonable level before unmuting the system.

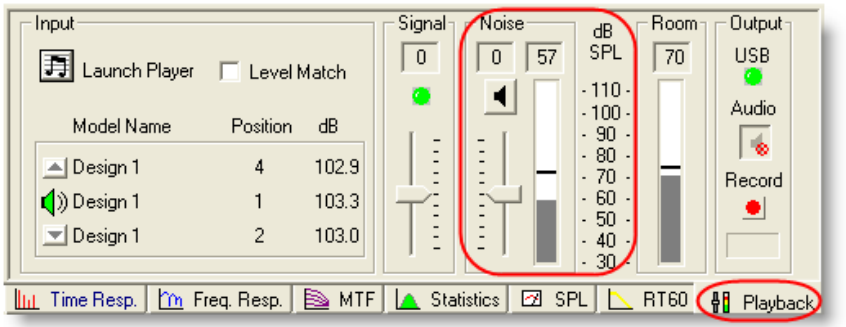


Figure 2.13 - Check noise level while muted

21. Unmute the system. You should now be listening to the performance of the sound system design at a specific location within the model.

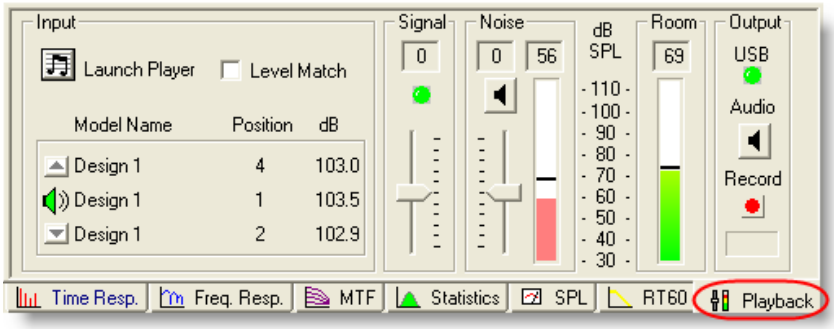


Figure 2.14 - System unmuted with background noise playing

Chapter 3: The Bose Media Player

Modeler Plus software comes with a dedicated media player that controls the audio source program material during listening sessions. The **Bose Media Player** runs as a separate program (it shows up as a separate item in the taskbar) but it opens and closes from within Modeler Plus software. The **Bose Media Player** automatically opens when a project is open and the Auditioner® Playback System III is connected to your computer and powered on. When the project is closed, or the Auditioner® Playback System III is disconnected, the **Bose Media Player** is automatically closed.

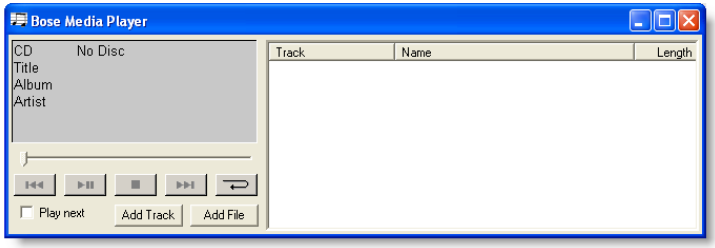


Figure 3.1 - Bose Media Player

Launching the Bose Media Player

The Bose Media Player will launch if all the following conditions are met:

- A project is open.
- The Auditioner® Playback System III is connected to your computer.
- The Auditioner® Playback System III is powered on.

The Bose Media Player will automatically close under any of the following conditions:

- The project is closed.
- The Auditioner® Playback System III is disconnected.
- The Auditioner® Playback System III is powered down.

If you close the Bose Media Player by clicking on the “X” in the upper right hand corner of the Bose Media Player window, it can be re-launched from the **Playback** tab. Click on the **Launch Player** button to launch the Bose Media Player:

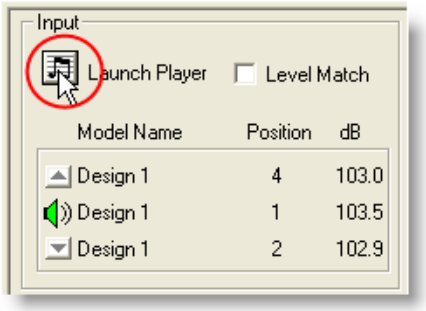


Figure 3.2 - Launch Bose Media Player button

Tip: You can also re-launch the Bose Media Player by pressing Shift + Ctrl + P.

Loading audio tracks

The **Bose Media Player** allows you to add audio tracks directly from an audio CD, or load audio tracks from your hard drive. To add audio tracks from an audio CD, insert the CD into a drive on your computer and click the **Add Track** button on the **Bose Media Player**. Select tracks from the CD and click **Add**, or click **Add All** to load all tracks from the CD.

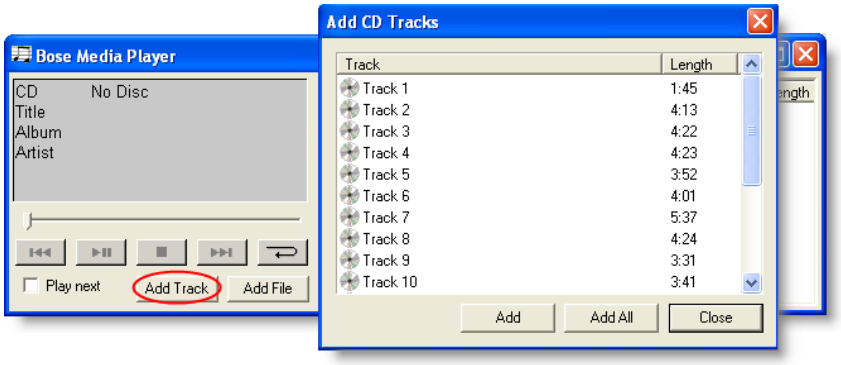


Figure 3.3 - Add CD tracks

If you eject the CD from your computer, the tracks are automatically removed from the **Bose Media Player**.

To add audio files that are on your hard drive or on an external drive, click the **Add File** button on the **Bose Media Player**. Navigate to the location of the audio tracks and click **Open**:

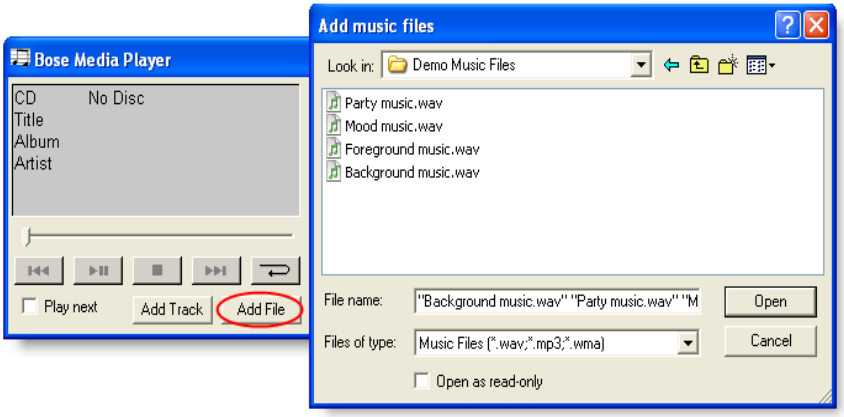


Figure 3.4 - Add file

If you move or delete an audio file from the hard drive, it will not play in the **Bose Media Player**. When you close and reopen the **Bose Media Player**, the file is removed.

Note: The playlist you create is available every time the Bose Media Player opens; it is not associated with the project.

Playing audio tracks

Use the following transport controls to control the Bose Media Player:

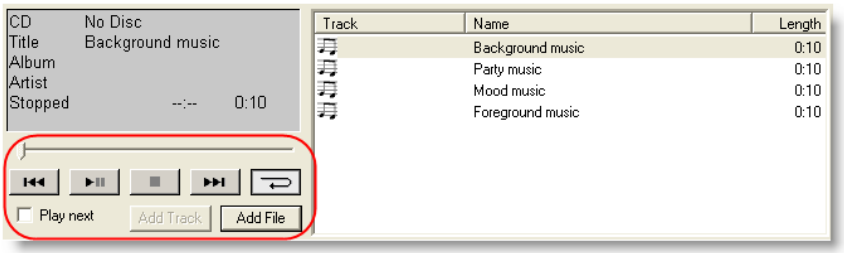


Figure 3.5 - Bose Media Player

	Play/ Pause:	Press once to begin playing the selected track. Press while a track is playing to pause the track.
	Stop:	Press to stop the track.
	Previous:	Play the previous track if within 3 seconds of the beginning, otherwise go to the beginning of the current track.
	Next:	Play the next track.
	Repeat:	Press to repeat the current track. Press again to disable repeat. Repeat is particularly useful when you are comparing listener positions or presenting a design. With repeat on, the track will automatically start over each time it reaches the end.
	Play Next:	When checked, the next track in the playlist is played when the current track is finished. When unchecked, play is stopped when the current track is finished.
	Seek slider:	Drag the slider to skip to a desired location in the track.

Chapter 4: The Playlist tab

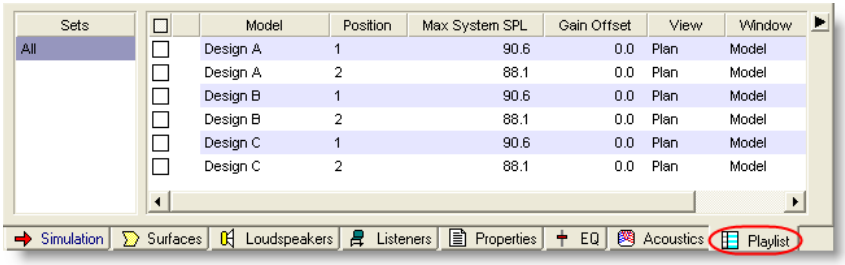


*Figure 4.1 - **Playlist** tab*

The **Playlist** tab is composed of two panels: the Sets panel and the Playlist panel. A set is a collection of listeners within or across models, and is either automatically generated (the ALL set) or user defined (custom sets). The playlist displays the list of items in the selected set, along with item properties used during playback.

Playlist panel

Item selection

The first column in the playlist panel contains item selection boxes. Items will not be loaded and played unless they are selected, which is indicated by an X appearing in the selection box. There are three ways to select items:

- Double-click on the listener row to load it into the queue.
- Place an “X” in the box next to the listener to load it into the queue.
- Place an “X” in the box in the column header to load all listeners into the queue at once:

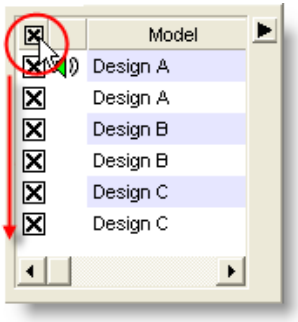


Figure 4.2 - Load all available listeners

If an audio track is playing in the **Bose Media Player**, you are able to listen as soon as a listener is loaded.

The second column is used to indicate which item is currently playing, if any.

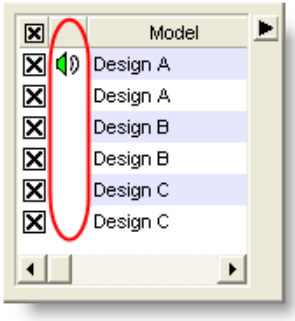


Figure 4.3 - Currently playing indicator

Listener state

The model name and listener position label for each playlist item are displayed in the next two columns. Listeners appear in light gray if the surfaces they are on have been unchecked in the Simulation tab. Listeners appear in italics if their data has not been recalculated since a change has been made to the model.

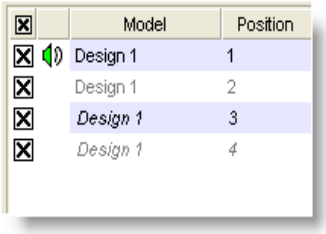


Figure 4.4 - Listeners state is represented by font

To make sure that the Listener data gets calculated when the engine is turned on, the Listeners box must be checked on the Simulation tab, and the Surface types that contain those Listeners have also been checked.

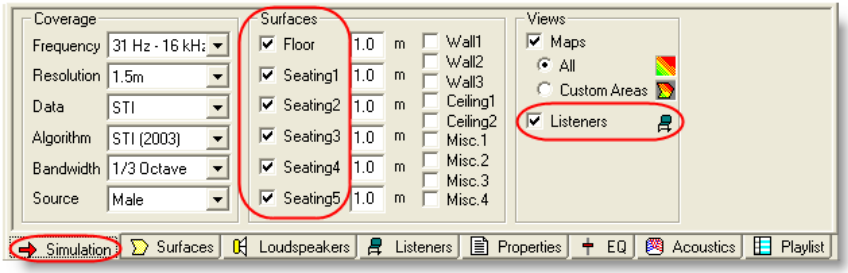


Figure 4.5 - Make sure that Surfaces and Listeners are checked

Listener attributes

The following column holds the Max System SPL, which is the highest level the installed sound system can produce at the listening location. This value is predicted by the application, and cannot be modified by the user.

The Gain Offset column contains a value used by the level match feature described on Chapter 6: Using Level Match, on page 47.

Modeler views

For each listener, you have the ability to assign a specific **View** and **Window** to be displayed in the **Modeling** window when the listener is playing back. Right-click in the **View** and **Window** columns in the **Playlist** tab to assign a view and window to each Auditioner® enabled listener. You can select multiple listeners and right-click to change the **View** and **Window** for multiple listeners at once.

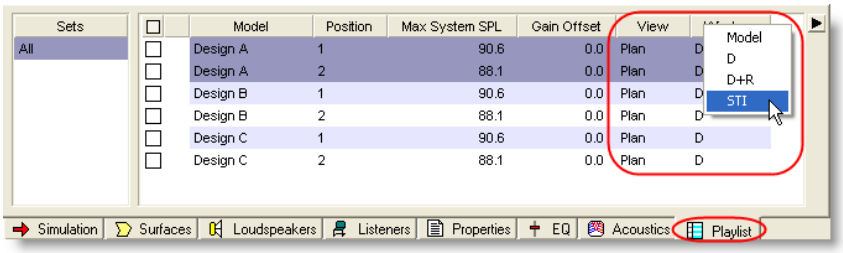


*Figure 4.6 - Right-click to assign **View** and **Window** to listeners*

For example, if you assign Isometric 1 view and the STI window to a listener, the **Modeling** window will look like Figure 4.7 when that listener is playing.

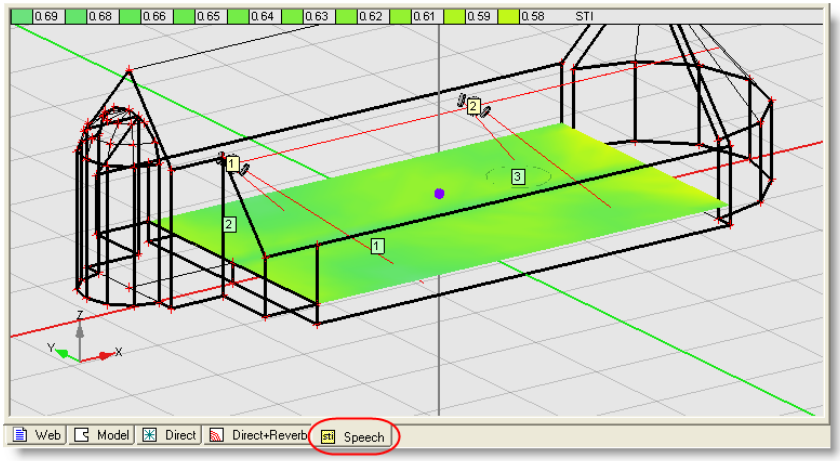


*Figure 4.7 - The **Modeling** window during playback of a listener with **View** of Isometric 1 and **Window** of STI*

Sets panel

The smaller window on the left side of the **Playlist** tab contains **Sets**. A **Set** is a group of listeners. The **All** set is automatically filled with all of the listeners in all of the open models.

The **All** set is always in the Sets panel and cannot be deleted. In Figure 4.8 below, all three models in the Auditorium project are open, as indicated by the model icon:

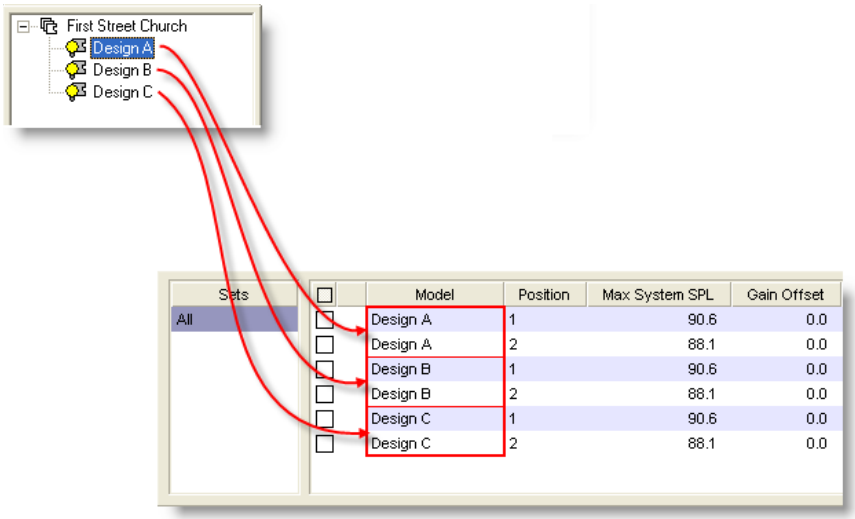


*Figure 4.8 - The **All** set automatically contains all listeners in all open models*

You can create a set that contains a selected subset of listeners. This is especially useful when comparing two models. The following steps describe how to create a new set by clicking and dragging:

1. Select one or more listeners from the playlist panel by clicking on the listener name (hold **Shift** or **Ctrl** to select multiple listeners). Click once, and then drag the selected listeners to a blank area in the **Sets** list on the left. A new set is automatically created.

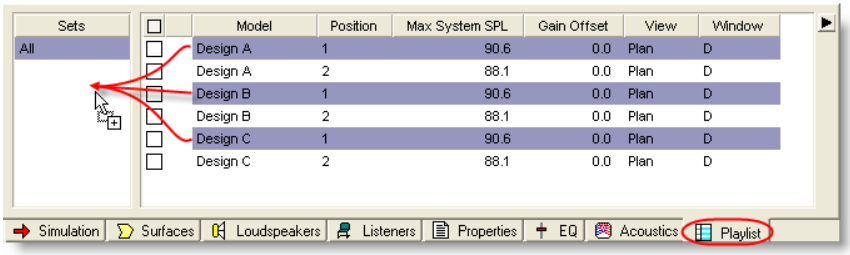


Figure 4.9 - Select and drag listeners to create a new set

The new set appears in the **Sets** panel and is named **Untitled 1**:

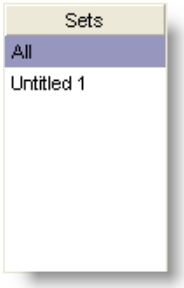


*Figure 4.10 - The new **Untitled 1** Set*

2. Rename the new set by double-clicking on the name (**Untitled 1**) in the **Sets** panel:

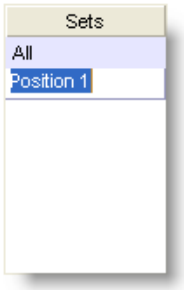


Figure 4.11 - Renamed Set list

3. When you click on the new set to select it, the **Playlist** panel displays the listeners that belong to the set:

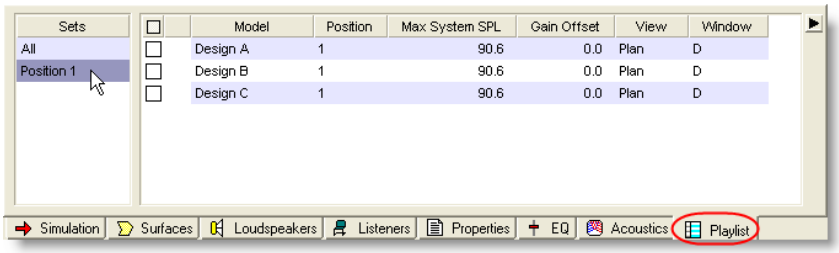


Figure 4.12 - The new Set

Listeners can be dragged into existing sets at any time. For example, if you want to add another listener to the new set you created, select the desired listener from the **All** list by clicking once. Click again and drag the row into the new set.

Follow these steps to create a new set using a different method:

1. Open the **Playlist** wing menu by clicking on the arrow in the upper-right corner of the tab:

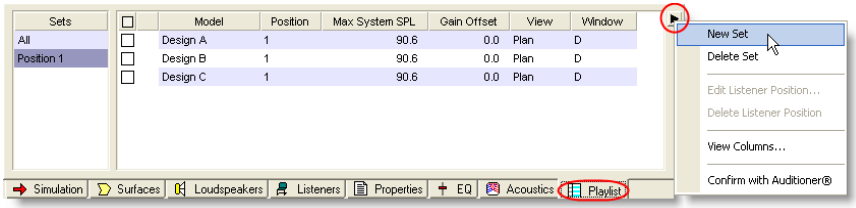


*Figure 4.13 - **Playlist** menu*

2. Choose **New Set**. A new set is created in the **Sets** panel. You can rename the set by double-clicking on it. To add a listener to the new set, simply click to select, then click, drag and drop them into the new set.

To delete a set, select the set and choose **Delete Set** from the **Playlist** wing menu. The deletion of a set cannot be undone.

Chapter 5: The Playback tab

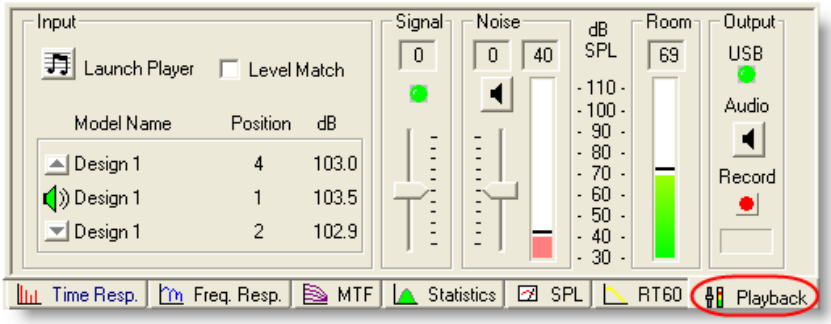


*Figure 5.1 - **Playback** tab*

The **Playback** tab allows you to control the playback of the listeners that are loaded into the playback queue. The panel layout is partitioned into five blocks: Input, Signal, Noise, Room, and Output.

Input block

Playback queue

The playback queue is displayed in the lower left of the **Playback** tab. It contains three columns. The first two are the model name and the position label for each listener. The third column is typically the maximum system SPL. However, when level match is selected, this column instead displays the gain offset. For more information, see *Chapter 6: Using Level Match, on page 47*.

Of the Auditioner® enabled listeners that have been loaded into the queue, three appear in the list: The current listener, the previous listener, and the next listener. The playback queue is a continuous loop regardless of how many listeners are loaded. When you reach the end of the queue, the first listener will be the next one to load.

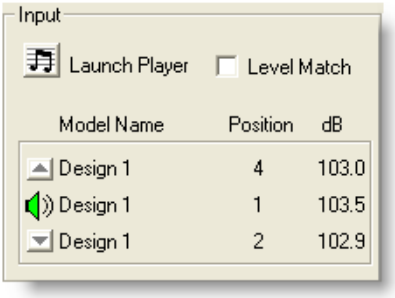


Figure 5.2 - Input block

The value that is displayed in the dB column Playback queue depends on the level match mode. When off, this value is the **Max System SPL** at the listener location (also displayed in the Max System SPL column in the Playlist tab). When on, this is the gain offset value. The Max System SPL value represents the highest level (depending on the characteristics of the source audio track) that you would hear at the listener location with the system at maximum gain.

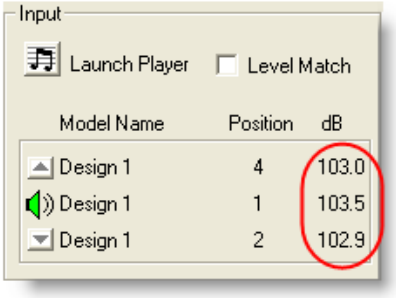


Figure 5.3 - Max System SPL

Note: If there are only two listeners in the queue, the previous and next listeners will be the same.

Scroll through the listeners using the arrows in the **Controls** group. You can also use the keyboard shortcuts to scroll through listeners: Ctrl + ← and Ctrl + →

The Launch Player button opens the Bose Media Player window, which allows audio to be played. For a description of the level match feature, see *Chapter 6: Using Level Match, on page 47*.

Signal block

Signal gain slider and field

Conceptually, the signal gain slider allows you to control the volume of your program material on a mixer. As the slider is adjusted, the sound level changes accordingly. The signal gain field reflects the current value of this adjustment.

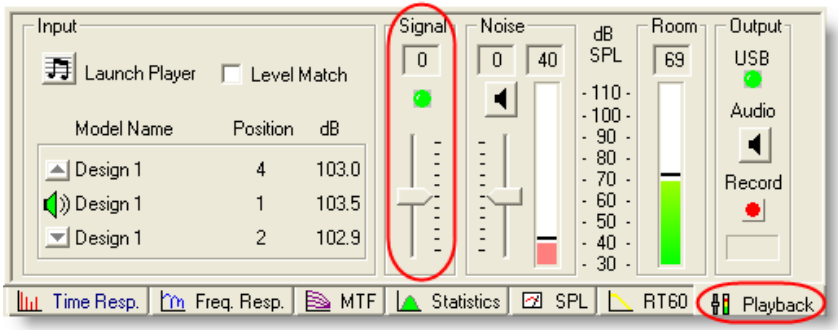


Figure 5.4 - Signal gain slider

It is possible to raise the signal gain slider above the level that the installed system is capable of reproducing at a given listener location. The system clip indicator is used to indicate this state.

System clip indicator

The system clip indicator, shown below, has three states: No signal present (gray), signal present and not clipping (green), and signal present and clipping (red). Only the sound system signal is used to set the state of this indicator. In other words, the background noise cannot cause system clipping.

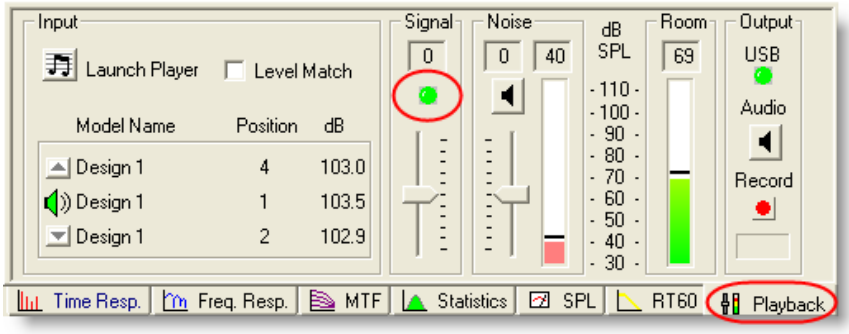


Figure 5.5 - Clip indicator

Noise block

There are two reasons the designer may wish to add background noise to the model. First, noise must be considered when predicting speech intelligibility. Second, when noise is mixed with processed signal, the designer can make better judgements about the performance of the sound system.

See *Chapter 6: Adding background noise, on page 49*, for an explanation on how to add background noise to your model.

Noise gain offset slider and field

Use the noise gain offset slider to adjust the noise level for custom noise only. Standard noise files are locked and cannot be adjusted.

The current offset value is shown in the gain offset field above the slider.

Figure 5.6 - Noise gain offset value

When the noise level is changed, the new value is used to calculate STI. If the map is visible, it will be updated automatically.

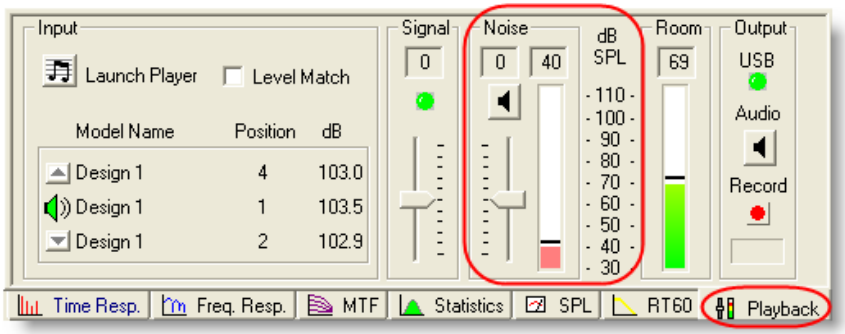


Figure 5.7 - Playback levels

Noise level meter and field

The noise playback level is displayed in dB SPL on the meter next to the noise gain slider. The noise level field above the meter bar is updated every 1.25 seconds, while the meter bar is updated every 250 milliseconds.

Noise mute button

The noise can be muted and unmuted using the toggle button shown below.

Figure 5.8 - Noise mute button

Room block

Room level meter and field

The room level meter combines both the signal and the noise in the room as predicted at the current listening location. The room level is displayed in dB SPL on the meter shown below. The room level field above the meter bar is updated every 1.25 seconds, while the meter bar is updated every 250 milliseconds.

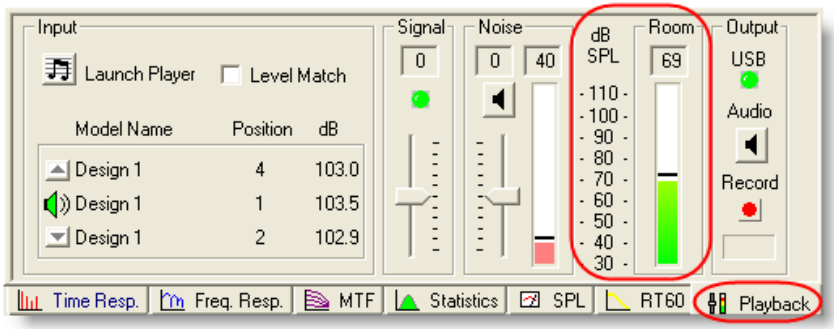


Figure 5.9 - Playback levels

Note: When noise is muted, the room level meter will measure the processed signal only. Conversely, to meter noise only, pause/stop the program material in the Bose Media Player.

Output block

USB detection indicator

The **USB** detection indicator is green when the Auditioner® playback unit is detected. When the playback unit is not detected, or gets disconnected, the indicator is red and no audio can be processed.

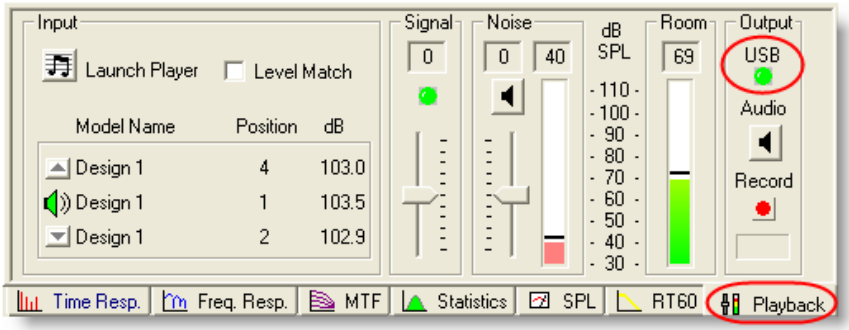


Figure 5.10 - USB detection indicator

Note: Remember, if the Auditioner® Playback System III is unplugged, the Bose Media Player will not open.

System mute button

Use the **System Mute** button to mute the playback. When you press the button again to unmute, there is a short ramp-up time before full volume is restored. The ramp-up time cannot be adjusted.

*Figure 5.11 - **System Mute** button*

Tip: If you have enabled Direct keys, you can use the direct key shortcut to mute the sound: the M key. You can enable Direct keys in the General tab of the Application Preferences dialog box. To mute the signal, press pause in Media Player.

Record button and elapsed time field

Processed audio can be recorded and saved to a (.wav) file for future playback. When recording, the current recording duration is displayed in the elapsed time field located below the record toggle button. To stop recording, click on the toggle a second time. For more information, see *Chapter 7: Record audio output, on page 53*.

Figure 5.12 - Record button and elapsed time field

Chapter 6: Designing with Modeler Plus software

Comparing multiple models

In the course of designing a sound system, it can be helpful to listen to two or more different versions of a model to reveal the best design. For example, you might compare models that have:

- Different loudspeaker design or arrangement.
- Different room construction materials.
- Different room geometry.
- Different occupancy levels or acoustic conditions.

The following example outlines how to compare multiple designs in Modeler Plus software:

1. Create a new project.
2. Add a new or existing model to the project. Make sure the model has at least one loudspeaker and at least one listener.

Figure 6.1 - A new project with one model

3. Duplicate the model by choosing **File** > **Duplicate Model** and then modify the duplicate model to create another version of the design. You can also modify the model and then choose **File** > **Save Model As...** to create another version of the design.

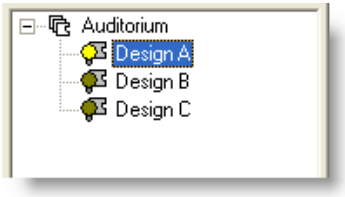


Figure 6.2 - Duplicating and modifying the design

4. Generate Auditioner® enabled listeners for the first model. Choose **Design** > **D²RΔSTIc** > **Confirm with Auditioner®** or press **F9**. After the listener has been enabled, it is displayed in non-italicized font to indicate that it is available for playback.

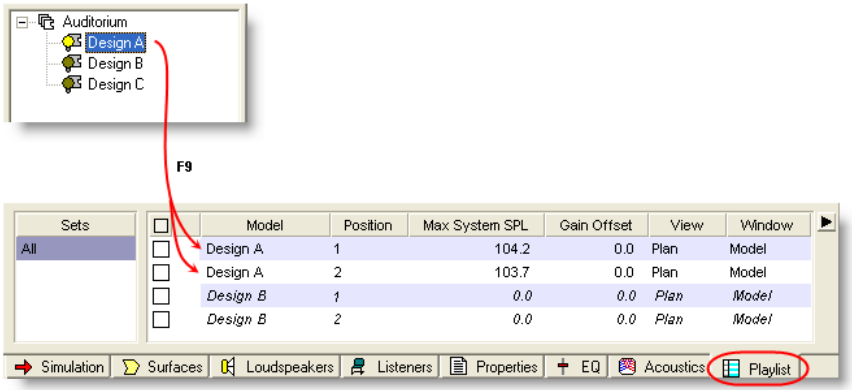


Figure 6.3 - Listeners are calculated for the first model after pressing F9

5. Click on the next model in the **Project** window, and choose **Design** > **D²RΔSTIc** > **Confirm with Auditioner®** or press **F9.**

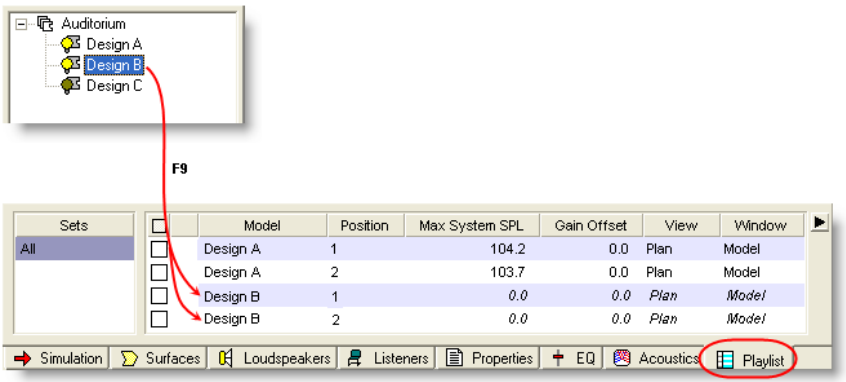


Figure 6.4 - Listeners are calculated for the second model after pressing F9

Select each model in the project for which you want to enable listeners, and choose **Design** > **D²RΔSTIc** > **Confirm with Auditioner®** or press **F9**. Listeners that are available for playback are displayed in non-italicized font.

Note: If a listener is still displayed in italics after calculation, the listener location may not be receiving enough sound energy based on your room design.

6. To compare two or more designs, load the listeners from each model into the playback queue by placing an “X” in the checkbox.

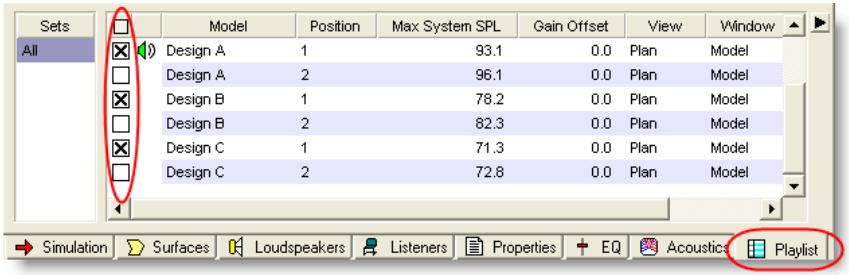


Figure 6.5 - Selecting listeners to load into the playback queue

Using Level Match

Listeners placed at different locations in the model, or in different models may have a wide range of sound levels. It is easier to make spectral comparisons between listener locations if the playback levels are similar. The ***Level Match*** feature automatically adjusts the level of each listener by the relative difference in max system SPL to achieve level balance. The user can tweak the adjustment by applying additional gain offsets to each item to account for the effects of other factors like listener view direction. These modifications are saved with the project and are restored when the project is opened later.

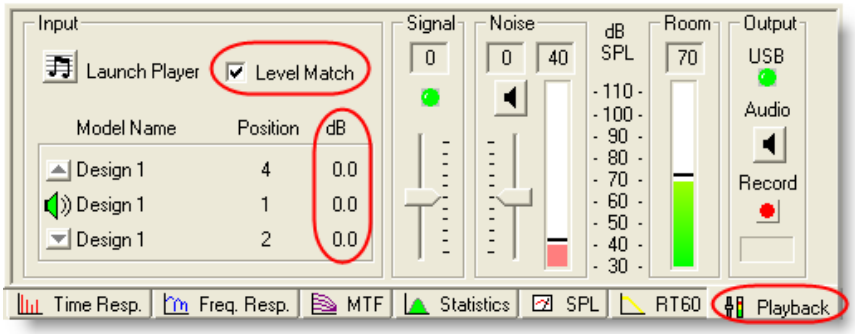


Figure 6.6 - Level Match option

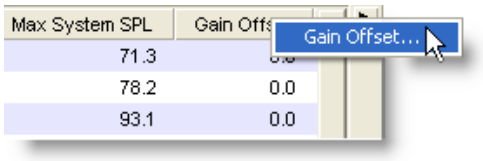


*Figure 6.7 - Right-click to set **Gain Offset***

Note: When filters are played back at predicted absolute levels (Level Match unchecked), you maintain the relative levels between filters.
When filters are played back in level match mode, filters are scaled to be played back at the same RMS level. You may still have to tweak them (using gain offsets) to achieve a closer level match.

Adding background noise

7. To assign a background noise profile to a model, click on the Acoustics tab in the Detail window.

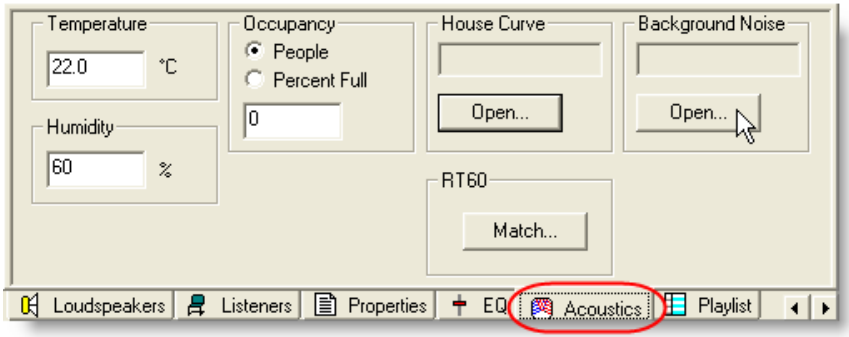


Figure 6.8 - Acoustics tab

8. Under Background Noise, click on the "**Open**..." button. The following screen appears:

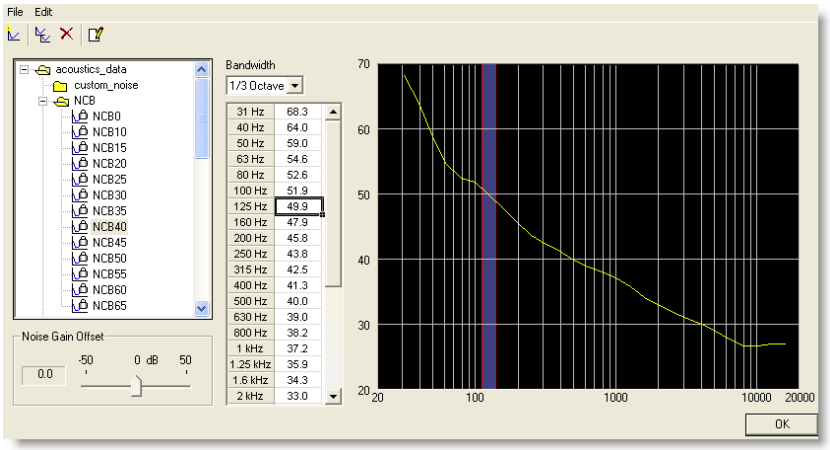


Figure 6.9 - Background noise window

Select an existing noise curve from the library on the left window frame, or create/duplicate/modify noise curves.

Note: You may create a new noise curve, or duplicate and rename an existing noise curve. If you do so, there will be no corresponding audio (.wav) file, and therefore no noise will be played for listeners in models with this noise assigned.

There are three types of noise files: standard, custom, and user created noise files. The audio (.wav) files associated with standard noise files are locked binaural files of shaped white noise. Custom noise files are recordings of real environments that have been processed for playback on Auditioner®. Unlike standard noise files, these files are unlocked and the level may be adjusted as needed for a given model. A user created noise file will have no associated audio (.wav) file.

When playing a listener in Auditioner®, the selected background noise will be played (unless muted). When you use the noise volume slider in the Playback tab to adjust the noise volume, the STI map is recalculated and redrawn if visible. When changing listeners the noise gain offset is set to 0, and the change is retained in the model.

Tip: If you mute the noise, the room level will be the same as the signal level. If you mute the signal by pressing pause/stop in the Bose Media Player, the room level will be the same as the noise level.

Chapter 7: Customer presentations

Modeler Plus software is useful in a variety of presentation situations. This section outlines how to use Modeler Plus software to accomplish the following:

- Playback Auditioner® enabled listeners without showing coverage maps.
- Rename listeners for a presentation.
- Record Auditioner® audio output.
- Save Auditioner® filters and coverage maps with a room model.

Hide maps

Modeler Plus software provides you with the ability to hide coverage maps when using Auditioner®. This is helpful in the following situations:

- If you want to present a model to a client without the distraction of the coverage data.
- If you want to send a model file to a colleague and prevent the display of the coverage maps, you can save the file with maps hidden.

Note: Models cannot be "locked" in Modeler Plus software. Although hiding maps is a useful feature, an experienced user will be able to turn off this feature.

To hide coverage maps, open the **Model Settings** dialog box by choosing **Edit** > **Model Settings**, or by pressing **Ctrl + R**. Click on the **Display** tab, and place a checkmark next to **Hide Maps**:

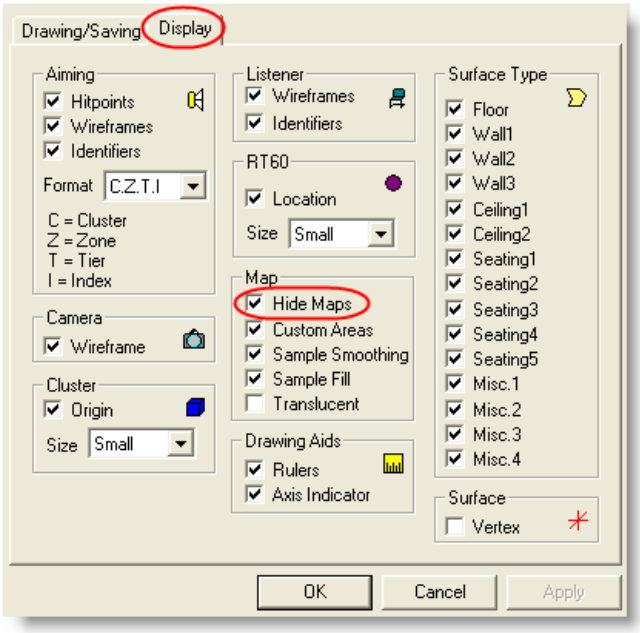


*Figure 7.1 - **Hide Maps** in the **Model Settings** dialog box*

If you click on a coverage map button while maps are hidden, you will receive the following message:

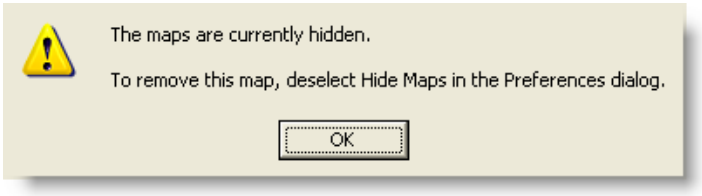


Figure 7.2 - Hidden maps notification

Rename listeners

You have the ability to rename listeners in Modeler Plus software. The name is displayed in the Position column in the Playlist tab and in the playback queue in the Playback tab. Follow these steps to rename listeners:

1. Open a model for which you want to rename listeners.

2. Choose the **Listener** tab and double-click in the **Identifier** column.
3. Enter a new name of up to four characters.

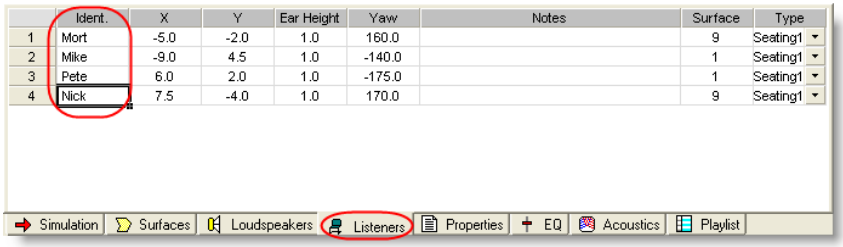


Figure 7.3 - Rename listeners

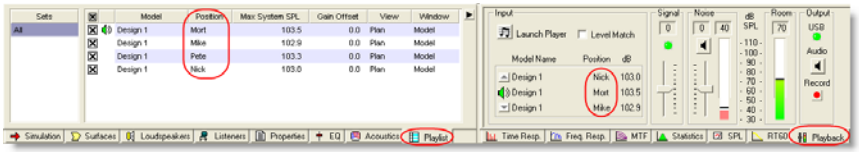


Figure 7.4 - Renamed listeners

This is an effective tool for providing personalization when presenting in front of customers.

Record audio output

You have the ability to record processed audio output to a (.wav) file. You can then burn the (.wav) file or files onto a CD along with a calibration tone. This allows you to use the Auditioner® Playback System III to play pre-recorded audio from outside Modeler, which is helpful in the following situations:

- If a client or field engineer wants to listen to a sound system without a computer.
- If you want to create a copy of the audio files to use as a backup for a demonstration.

Follow these steps to record processed audio output:

1. During listener playback, press the **Record** button in the **Playback** tab. When recording, the button will be displayed in a depressed mode and the display of elapsed time will be shown:

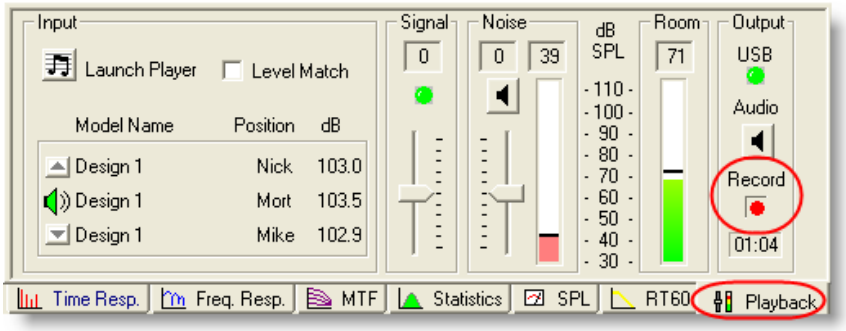


*Figure 7.5 - **Record** button*

2. While the **Record** button is pressed, Modeler Plus software records the output of any listener that is being played, including any volume changes. As you record, the elapsed time is updated.
3. To stop recording, press the **Record** button again.
4. The **Save As** dialog box opens where you can name the file and specify a location in which to save it.
5. When burning a CD of the (.wav) file output, you should include the calibration tone for calibrating the Auditioner® Playback System III. The calibration tone can be found in the **Extras** folder on the Modeler Plus software installation CD.

Calibration for playback of Auditioner® recordings

You can ensure that your recordings are played at the intended level by taking the following steps to calibrate playback from a CD or (.wav) file player:

1. Place the CD with the calibration tone into a CD player, or load the calibration tone into a media player on your computer.

   If you are using a media player on your computer, make sure your system volume is set to maximum.

Figure 7.6 - Set system volume to maximum

2. Connect the CD player to the Auditioner® Playback System III using the supplied cable, or use a USB cable to connect the Auditioner® Playback System III to your computer.
3. Toggle the Calibrate button on the front of the Auditioner® Playback System III to the up position to engage calibration mode.
4. Play the calibration tone.
5. The LED read-out on the front of the Auditioner® Playback System III provides the following information:

Calibration High (Red LED):	Incoming signal is too high. Decrease the volume level on the CD player or media player.
Calibration Reference (Green LED):	Unit is calibrated within ±1 dB SPL.
Calibration Low (Yellow LED):	Incoming signal is too low. Increase the volume level on the CD player or media player.

6. Adjust the volume level on the CD player or media player until the calibrate LED is green.

7. After setting the volume level on the CD player or media player, do not change the volume for the duration of the playback session.
8. Toggle the **Calibrate** button on the Auditioner® Playback System III to the down position to engage the SPL meter.

PowerPoint presentations

Recorded output can be used to make effective and dynamic PowerPoint presentations.

- Make a PowerPoint slide that shows a coverage map by using the Copy/Paste functionality.
- Insert a (.wav) file recorded from the model into the PowerPoint slide.
- Play the (.wav) file during the presentation.
- For more information on Copy/Paste functionality, see *Chapter 12: Reports and Proposals* in the Modeler Plus Software User Guide or go to **Help** > **Contents ...** to access the help.

Save coverage maps and Auditioner® data with a model.

The data that is calculated when a listener is Auditioner® enabled is called an Auditioner® filter. Filters and coverage maps can be saved with a model file. When you open the file at a later date, the filters and maps will open with the model, and you will not be required to recalculate.

Tip: When you save Auditioner® filters or coverage maps with a model, the size of the file will increase substantially. You may not be able to easily e-mail a model file that has Auditioner® filters or coverage maps saved.

To save Auditioner® filters and coverage maps with the model, open the **Model Settings** dialog box by choosing **Edit** > **Model Settings**, or by pressing **Ctrl + R**. Click on the **File I/O** tab, and place a checkmark next to **Auditioner® Filters** and **Map Data**.

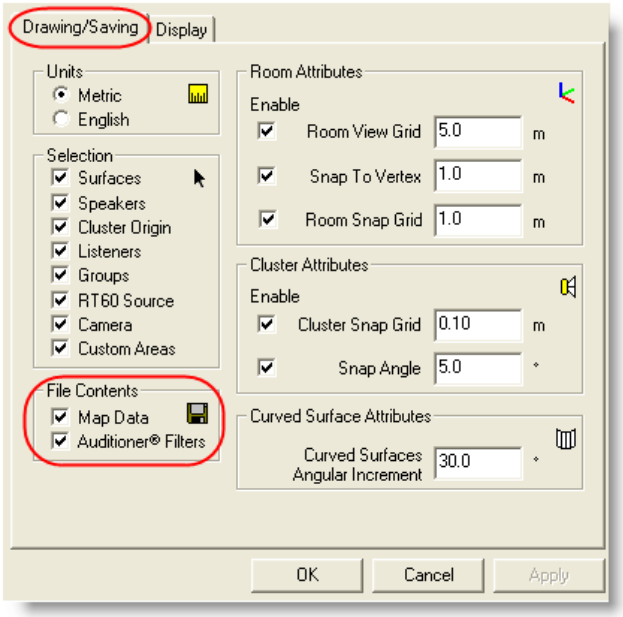


Figure 7.7 - Saving filters with the model

Turn the D²RΔSTIc engine off for each model before saving the file to prevent recalculation when the file is opened. The model icon indicates when the engine is off:

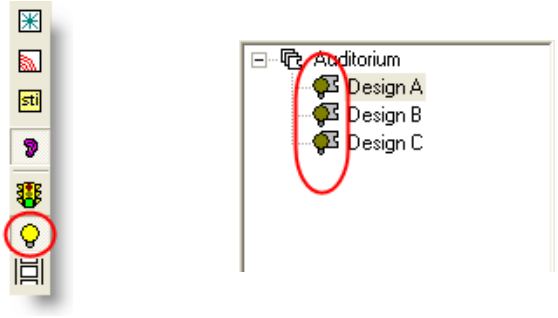


Figure 7.8 - Click to turn off the D²RΔSTIc engine for all models before saving.

When you save the file, the Auditioner® filters and coverage maps will now be embedded in the model (.mdr) file.

Chapter 8: Reference

Keyboard Shortcuts

Use the following keyboard shortcuts in Modeler Plus software:

M (direct key) or **Shft** + **Ctrl** + **M**	Toggle system mute.
Ctrl + ← and **Ctrl** + →	Scroll through listeners.
Ctrl + ↑ and **Ctrl** + ↓	Adjust signal volume up and down.
Shft + **Ctrl** + **R**	Start recording, stop recording.
Shft + **Ctrl** + **G**	Toggle Level Match.
Shft + **Ctrl** + **P**	Re-launch Bose Media Player.
Alt + **Tab**	Switch between the Bose Media Player and Modeler Plus software applications.
Shift + Ctrl + **0**	Mute noise.
Shft + **Ctrl** + ↑ and ↓	Adjust noise volume up and down.

You also can find the Keyboard Shortcuts card here:

http://pro.bose.com/pdf/pro/manuals/modeler_program/ks_modeler_plus_6_5.pdf

Playlist tab

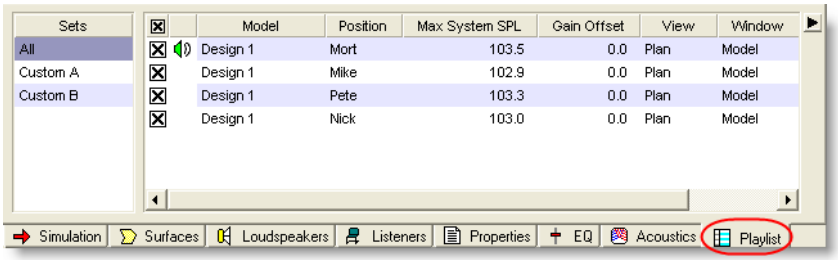
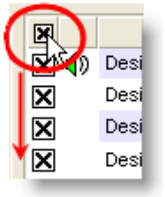
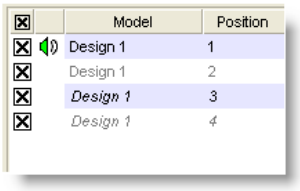


Figure 8.1 - Playlist tab

Sets:	Groups of listeners. The **All** set is automatically filled with all of the listeners in the open models.
☐ **(Checkbox):**	 Place an “X” to add the listener to the playback queue. Place an “X” in the box located in the header row to load or unload all available listeners at once.
Model:	The name of the model that contains the listener.
Position:	The Listener identifier.

Max System SPL:	The maximum dB SPL output that the sound system can produce without clipping.
Gain Offset:	The amount of additional adjustment to the gain level at the listener location.
View:	The view angle that is displayed in the **Modeling** window when the listener is playing.
Window:	The tab that is selected in the **Modeling** window when the listener is playing.
Font:	 Listeners appear in light gray if the surfaces they are on have been deselected in the Simulation tab. Listeners appear in *italics* if their data has not been recalculated since a change has been made to the model.

Right-click menus

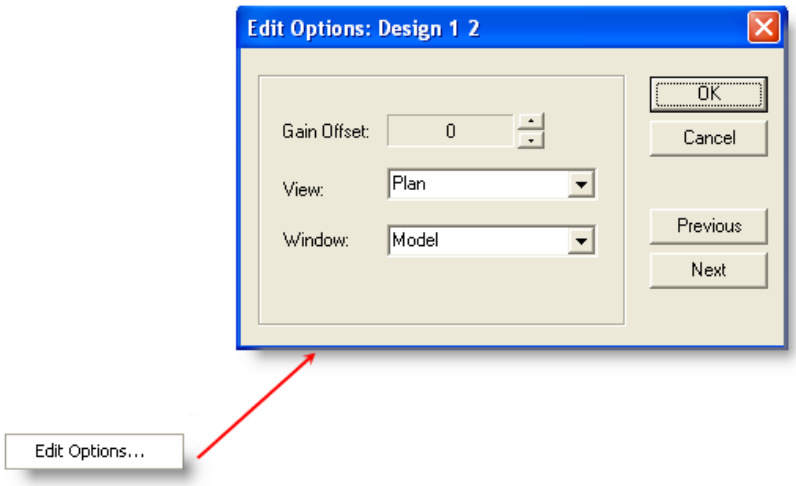


Figure 8.2 - Edit Options window

Right-click on the **Model** or **Position** column and choose **Edit Options** to open the **Edit Options** window. This window allows you to change the **Gain Offset**, **View**, and **Window** values for a listener. Click **Previous** and **Next** to change values for a different listener.

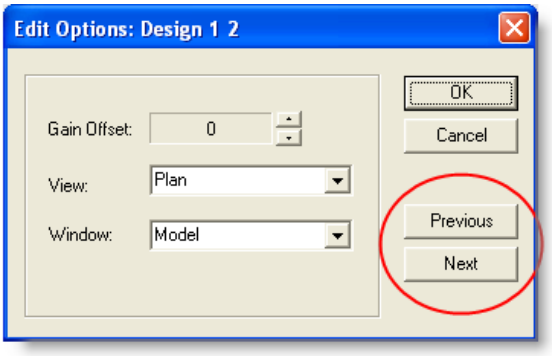


*Figure 8.3 - Click **Previous** or **Next** to move to a different listener*

The title bar shows which listener you are editing.

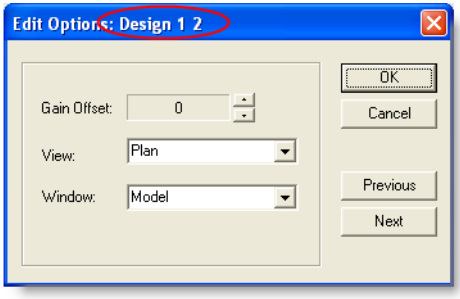


Figure 8.4 - Title bar

Right-click on the **Gain Offset** column to change the gain offset for one or more listeners. Select multiple listeners and right-click to change the gain offset for multiple listeners at the same time.

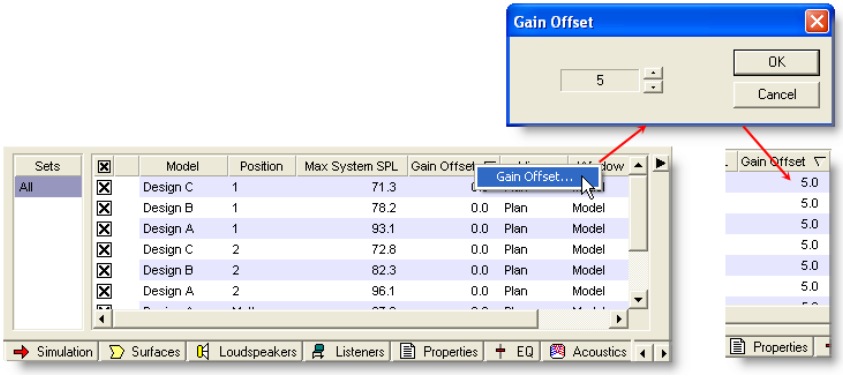


Figure 8.5 - Entering gain offset for multiple listeners

You can also right-click on the **View** and **Window** columns to assign a different view or window to the listener. As with gain offset, you can change these values for multiple listeners at the same time.

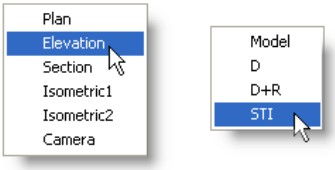


*Figure 8.6 - Right-click to change **View** and **Window***

Wing menu

Access the **Playlist** tab wing menu by clicking on the arrow in the upper right hand corner of the **Playlist** tab.

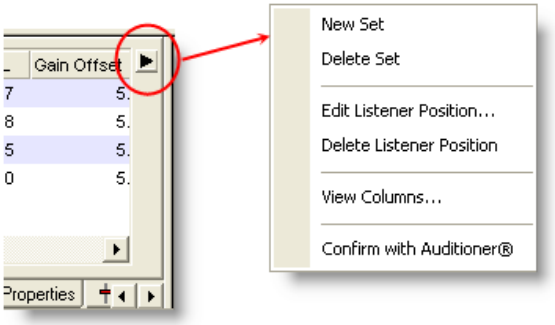


Figure 8.7 - Accessing the wing menu

New Set:	Create a new set in the **Sets** window.
Delete Set:	Delete the selected set from the **Sets** window. The **All** set always contains all listeners for all open models and cannot be deleted.
Edit Listener Position...:	Open the **Edit Options** dialog box for the selected listener.
Delete Listener Position:	Delete the selected listener position from the set. Listeners cannot be deleted from the **All** set.
View Columns...:	Open the **View Columns** dialog box to change which columns are displayed in the **Playlist** tab.
Confirm with Auditioner®:	Enable listeners for playback for the currently active model. This is the same function as choosing **Design** > **D²RΔSTIc** > **Confirm with Auditioner®**, or pressing **F9**.

Playback tab

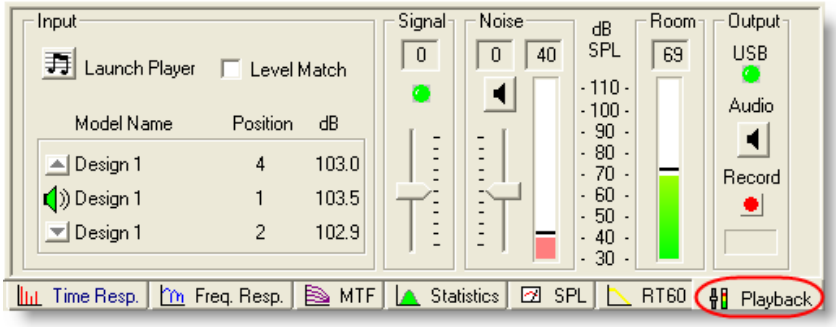


Figure 8.8 - Playback tab

	Level Match.
	Launch Bose Media Player.
	Play the previous listener.
	Play the next listener.
	Signal state indicator.

	Auditioner® Playback System III plugged or unplugged and powered on.
	Toggle between system mute and unmute.
	Toggle between noise mute and unmute.
	Begin/end recording.
	Elapsed time.

Getting help

User guide

This user guide is a comprehensive reference for Bose Modeler Plus 6.5 software. This guide, along with the Bose Modeler 6.5 User Guide, is provided in .pdf format on the installation CD, and can also be downloaded from the http://pro.bose.com/modeler website.

Help

The help system in Modeler Plus software is a valuable tool for getting help. Go to **Help** > **Contents** in Modeler Plus software (or press **F1**) to launch the HTML-based help system. The tabs in the left-hand window can help you find the information that you need.

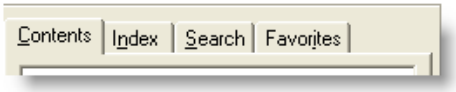


Figure 9 - Tabs in the online help system

Contents:	View the full contents of the help system in a tree format. Click on a title to view the document in the right-side window.
Index:	View a list of all index topics. Type a keyword in the box at the top to jump to a topic.
Search:	Perform a text search for the word or phrase that you type.
Favorites:	Use this tab to bookmark a page or section that you use frequently. Click the **Add** button at the bottom of the window to add the current topic to your favorites list.

You can display system information using **Help** > **System Info ...** (or press **F2**).

Note: You must have administrative rights on your machine to be able to view system information.

Web tab

When you are working in Modeler Plus software while connected to the internet, the **Web** tab in the **Modeling** window is a link to Modeler Plus software information on the Bose Professional Systems website.

*Figure 8.1 - **Web** tab*

pro.bose.com

The Bose Professional Systems website (**http://pro.bose.com**) contains information on all Bose Professional Systems products, including Modeler Plus software, and the loudspeakers used in Modeler Plus software.

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